

REMARKS/ARGUMENTS

Claims 1-4, 6-13, 16-19 are being resubmitted. Claims 1, 8, 18, and 19 are currently amended. Claims 5 and 14-15 have previously been canceled. No new claims have been added.

Claims 1-4, 6, and 19 have been rejected under 35 USC 103(a) as being unpatentable over Lapierre et al. (U.S. Patent No. 6,163,230) in view of Chang (U.S. Patent Application 20040213229 A1). Claim 7 has been rejected as unpatentable over Lapierre and Chang and further in view of Desrosiers (US 6,434,199). Claims 8-13, 16, and 18 have been rejected as unpatentable over Lapierre in view of admitted prior art and further in view of Chang. Claim 17 has been rejected as unpatentable over Lapierre, admitted prior art, and Chang, and further in view of Desrosiers.

Examiner Interview

On November 14, 2005, a telephone interview was conducted between the Examiner and Applicants' representative. A proposed amendment and the references U.S. Patent No. 6,163,230 ("Lapierre") and U.S. Patent Application 20040213229 A1 ("Chang") were discussed. Applicants would like to thank the Examiner for the discussion. No agreement was reached.

Lapierre

Claims 1, 8, 18, and 19 have been amended, support for which can be found in the specification, for example, at paragraphs [0031], [0033], and [0040].

Neither Lapierre, the admitted prior art, nor any art of the references cited

disclose the use of identically configured, symmetrical circuits (with respect to device and component matching and circuit symmetry on a MMIC chip) for reducing amplitude and phase error to achieve a balanced signal, as claimed by claims 1, 8, 18, and 19, that enables the present invention to provide improved efficiency for bandwidth efficient modulation, e.g., higher bit rate transmission for a given power consumption. For example, while Lapierre may disclose "functionally identical" cells (col. 4, line 58; col. 8, line 46), Lapierre does not describe symmetrical circuit layout, device and component matching in MMIC as claimed by the present invention.

The present invention further employs identically configured notch filters for achieving balanced modulators and output signals. Neither Lapierre nor the other prior art either disclose or suggest a motivation to use identical notch filters that prevent interference of the carrier to be modulated with the baseband data signal prior to modulation, as claimed by the present invention. While Chang` at paragraph [0186], discloses using a notch filter "which removes the SSB header signal propagating with $f_{sub.c}$ as its center frequency", Chang, at paragraph [0185] states:

"This foregoing operational description has focused only on the detection of the optical header to control the routing path through switch 2603. As alluded to in the Background Section, header replacement is now considered important to present-day NGI technology so as to accomplish high-throughput operation in a packet switched network in which data paths change due to, for example, link outages and variable traffic patterns."

Thus, while it may be obvious, as with Chang, to use a notch filter to remove a header signal that is deliberately transmitted with the data in order to recover the data, Applicants respectfully submit that it is not obvious, as in the present invention, to use identical balanced notch filters to remove a carrier at a point in the circuit where no carrier should be present. Furthermore, the principles of

operation of the present notch filters are contrary to those of Chang because the identical notch filters remove the carrier from the data before that same carrier is modulated rather than after as with the notch filter of Chang.

Applicants also respectfully disagree with the Office action's assertion that "Lapierre and Chang are analogous art because they are from the same field of endeavor." The notch filters of the present invention are used in a different structure for a different purpose under different conditions from that of the notch filters of Chang. While Lapierre deals with radio frequency (RF) communications that are propagated through space at radio frequencies that are not in the visible or infra-red part of the spectrum, Chang is concerned with packet switching networks that communicate via optical fibers, typically at one or two infra-red or visible wavelengths chosen according to the light attenuation properties of the glass in the optical fibers. Thus, the structures and conditions are markedly different. Further, as noted above, the purpose for which the notch filters are used as between the present invention and Chang are contrary to each other, so that one of ordinary skill in the art would not reasonably expect to solve a problem of improving symbol transmission precision for bandwidth efficient modulation by considering wave division multiplexing techniques in packet switched networks using fiber optic media.

Therefore, Applicants respectfully submit that the rejections based on Lapierre, alone or in combination with any other prior art, should be withdrawn.

CONCLUSION

Applicants would like to thank the Examiner for the telephone interview of November 14, 2005. Reconsideration and withdrawal of the Office Action with respect to claims 1-4, 6-13, and 16-19 is requested. Applicants respectfully request that a timely Notice of Allowance be issued in this case.

In the event the examiner wishes to discuss any aspect of this response, please contact the attorney at the telephone number identified below.

Respectfully submitted,

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